DOCUMENT RESUME

ED 430 675 PS 027 579

AUTHOR Weissmann, Lenore; Kromelow, Susan; Harding, Carol Gibb; Mroz, Cheryl; Lynn, Laura; Noll, Lisa

TITLE Interaffectivity, Attachment, and Perinatal Vulnerability: Complexities of Motherhood in the Nineties.

PUB DATE 1999-04-00

NOTE 16p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Albuquerque, NM, April 15-18, 1999).

PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS Affective Behavior; At Risk Persons; *Attachment Behavior; Depression (Psychology); Emotional Development; Emotional Response; Females; *Infants; *Mothers; *Parent Child Relationship; Parents; *Perinatal Influences; Personality

IDENTIFIERS First Time Mothers

ABSTRACT

This study explored the role of perinatal vulnerability (PV) in mothers and infants in relationship to the development of interaffectivity and attachment, and the relationship between interaffectivity and attachment. Participating were a low-risk sample of 74 middle-class mother/first-born infant dyads who had participated as volunteers in a combined parent-support program and research project over seven years. Infants ranged in age from 3 weeks to 9 months at time of entry, with mothers' age ranging from 26 to 43 years. Within the context of the ongoing program, the following assessments were conducted: (1) interaffectivity, through ratings of mother-infant videotaped play; (2) quality of attachment; (3) perinatal vulnerability, through structured clinical interviews with mothers; and (4) infant temperament. Findings indicated that interaffectivity and attachment were significantly correlated for the entire sample and the PV group. Although postnatal maternal illness and prenatal vulnerabilities tended to lower attachment for the group as a whole, those dyads showing higher levels of interaffectivity had higher levels of attachment. Maternal depression symptoms following birth were reported by 27 percent of the subjects; self-report of such symptoms during the first 6 months was correlated to observations at 14 months through the depression variables of the interaffectivity scale. Self-reported depression was negatively related to interaffectivity and attachment, and was related positively to previous pregnancy loss, fertility problems, and C-section delivery. Mothers reporting perinatal depression saw their infants as unusually fussy, difficult, demanding, unadaptable, persistent, and unsociable at 14 months. (Six tables detail findings.) (KB)

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# INTERAFFECTIVITY, ATTACHMENT, AND PERINATAL VULNERABILITY: COMPLEXITIES OF MOTHERHOOD IN THE NINETIES

**Lenore Weissmann, Ph.D., Susan Kromelow, Ph.D., Carol Gibb Harding, Ph.D., Cheryl Mroz, Ph.D., Laura Lynn, Ph.D., and Lisa Noll, M.A.**

**Family Wellness Project**
**Loyola University Chicago**

**Presented at**
**The Biennial Meeting of the Society for Research in Child Development**
**April 15-18, 1999, Albuquerque, NM**

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Please direct correspondence to:
Lenore Weissmann, Ph.D., Family Wellness Project,
Loyola University Chicago, 1041 Ridge Road, Wilmette, IL 60091
847-853-3089; FAX: 847-853-3375; email: lweissm@luc.edu



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# Interaffectivity, Attachment and Perinatal Vulnerabilities in Mothers and Infants: Complexities of Motherhood in the Nineties

Lenore Weissmann, Susan Kromelow, Carol Gibb Harding,
Cheryl Mroz, Laura Lynn and Lisa Noll

Family Wellness Project

Loyola University Chicago

## INTRODUCTION

Within a multifaceted project exploring a variety of developmental issues longitudinally, a wide range of data is being collected, including mother-child interaction data investigating the development of attachment, interaffectivity and communication, as well as data from clinical interviews, Parental Stress Inventory and Bates child temperament scales. These data continue to provide a framework for investigating developmental pathways in a complex manner; the construct of emotional engagement has emerged as a unifying construct (Weissmann, et al, 1998, 1996; Harding, et al, 1997). Interaffectivity, indicating a sense of emotional intimacy, connectedness or "being with" and the ability to share on a feeling level (Weissmann, 1987), conceptualized as a result of affect attunement (Stern, 1985), has been shown to be related to attachment, a strong affectional tie between mother and infant.

This study continues to explore the role of perinatal vulnerability (PV) in a low-risk sample in relationship to the development of interaffectivity and attachment, as well as the relationship between interaffectivity and attachment (Kromelow, et al, 1997).

## METHOD

Subjects included 74 middle-class mother/first-born infant dyads who have participated as volunteers in a combined parent-support program/research project over a period of 7 years. Infants (53% boys and 47% girls) ranged in age from 3 weeks to 9 months at time of entry into the project's parent-support program. Mothers ranged in age from 26 to 43 years, with a mean age of 33; fathers ranged in age from 25 to 50, with a mean of 34. (See Table 1.)

Participation in the parent support/education group was limited to first time mothers with babies under one year of age, who responded to notices appearing in suburban newspapers, parenting periodicals, and flyers posted in the community. An individual session at the conclusion of the five-week group included video taping of the mother and infant at play, playback of the video with feedback, and a structured clinical interview. The support and trust engendered through the group and individual sessions contributed to the high rate of return of subjects for additional data gathering, and contributes to the ecological validity of the study.

With parental consent, the following assessments were conducted within the context of the on-going parent-support program:

**Interaffectivity** represents a sense of emotional intimacy, connectedness and "being with" experienced between mother and infant and the experience of sharing on a feeling level, (Weissmann, 1987); it is conceptualized as a result of affect attunement (Stern, 1985), which develops between the ages of 9 to 12 months, as the child develops the realization that feelings can be shared. It is an interactional, relational construct residing in neither the mother nor the child, but in the dynamic "space between".

Interaffectivity has been assessed at an average age of 14 months through the use of a videotaped play paradigm, which is analyzed using the Mother-Infant Interaffectivity Scale, (Weissmann, 1987), an adaptation of the Parent-Child Early Relational Assessment (Clark, et al, 1980, 1985). The Interaffectivity Scale consists of 20 variables, (rated on a 5 point Likert-like scale) which are closely related theoretically and statistically. The range of possible scores is from 20 to 100. The mean for this group is 76.5. (See Table 2.)

**Quality of attachment**, assessed at 14 months, has been measured by a laboratory procedure identical to Ainsworth's Strange Situation. To quantitatively reflect the range and variation of the quality of attachment, a continuum of felt security was conceptualized. A 7-point hierarchical continuum integrating original Ainsworth et al subcategories with additional borderline subcategories was created. (Kromelow, et al, 1997) The mean for this group is 4.7. (See Table 2.)

**Perinatal Vulnerability** was assessed as present through structured clinical interviews with mothers. Included in the category of perinatal vulnerability are such maternal and infant issues as infertility, previous pregnancy loss, labor problems including C-section, preterm birth, maternal illness, maternal depression, and infant concerns. 86% of the 74 subjects reported one or more of these issues.

**Temperament** (Bates, 1979) was assessed at 14 months, at the time of data gathering for attachment and interaffectivity.

## RESULTS AND DISCUSSION

The data was analyzed through Pearson Correlation, Multiple Regression, and because variables tended to be inter-correlated, t-tests, cross tabs and patrial correlations were run, in order to support the associations found through correlational analysis.

Results of the effects of perinatal vulnerabilities on attachment, interaffectivity and each other were more complex than anticipated. (See Table 3: Correlation Coefficients for Attachment, Interaffectivity and Vulnerabilities.)

### Relationships with attachment and interaffectivity

1. **Interaffectivity and attachment** were found to be significantly correlated both for the entire sample and for the PV group. Both optimal interaffectivity and optimal attachment represent the existence of a strong dyadic relationship, and the strong association may indicate a tie which includes a sense of intersubjective relatedness, and dyadic reciprocity. The use of

a continuum representing felt security permitted an analysis of attachment with a complex construct, and supports the continued use of such a continuum.

2. **Prenatal maternal vulnerabilities** (a variable which includes mothers with infertility issues and/or previous pregnancy loss) and **postnatal maternal illness** were both negatively related to attachment, and not to interaffectivity. Multiple regressions show that this relationship was mediated by interaffectivity. (See Tables 4 and 5.) This indicates that for those mothers with these vulnerabilities, attachment tended to be generally lower, except for those mothers where interaffectivity was high. Although post-natal maternal illness and prenatal vulnerabilities tended to lower attachment for the group as a whole, those dyads showing higher levels of interaffectivity had higher levels of attachment.

Relationships with **self-reported maternal depression**

3.. Symptoms of maternal depression following birth were self-reported by 27% of the subjects; the self report during the first 6 months was **correlated to observations** made at 14 months through the maternal, child and dyadic "depression" variables of the interaffectivity Scale. (See Table 3.) The relationship of the self-reported depression following birth with observed depression at 14 months, in mother, child and dyad, speaks both to the validity of early self-report, and to the long lasting effect of depression reported following childbirth.

4. Self-reported depression shows a negative relationship with both **interaffectivity and attachment.**

5. Self-reported depression also shows significant relationships with several other perinatal variables, including a positive correlation with **previous pregnancy loss and/or fertility problems**, and a positive correlation with **C-section**.

Relationships with temperament.

6 Self reported maternal depression was significantly related to **infant temperament**, as measured on the Bates Temperament Scale at an average age of 14 months, showing that mothers reporting depression around the time of birth saw their babies as unusually fussy, difficult, demanding, unadaptable, persistent and unsociable at 14 months. (See Table 6.)

CONCLUSIONS and IMPLICATIONS

These findings highlight the prevalence of perinatal vulnerabilities among middle-class families, and the complex relationships among them. Particularly noteworthy are the long range effects of self-reported depression: its relationship to previous pregnancy loss and or/fertility problems, to C-section, to perceptions of child temperament, and to the development of interaffectivity and attachment. The persistence of depressive symptoms is supported by the relationship with observed depression in the mother, child and dyad as rated in the interaffectivity scale at 14 months..

This group of middle to upper-middle class mothers is by most standards a low-risk

group. However, by choosing issues which could be defined as "vulnerabilities" rather than risks, 65 of the 75 dyads have been found to experience one or more such issues. The large portion of the sample experiencing vulnerabilities may be explained in several ways. Any issue that seemed removed from the norm, or expected result, was included, regardless of severity, because many of the issues, such as infertility, are recognized as being problematic, physically and/or emotionally. In addition, this self-selected sample chose to join a group housed in a University setting, where they might expect to encounter experts, and may have been drawn to the group for that reason.

And perhaps, becoming a parent in the 90's may itself promote vulnerability, most importantly through the fact of delayed child bearing and the issues of infertility, anxiety and loss of identity that accompany it. In terms of infertility issues, for example, this group, 19% of whom have experienced infertility, exceeds the 1998 reported national figure of 14%. In addition, the number seems to be increasing every year; between 1998 and 1999 our subject pool increased by 22; those experiencing fertility problems were 5 out of the 6 most recent births, and 4 of those 5 had experienced previous pregnancy loss. Recent governmental reports from the Centers for Disease Control and Prevention have also indicated an increase in fertility-enhanced births nationwide.

Implications for interventions include the notion that perhaps becoming a parent in the 90's may itself promote vulnerability, most importantly through the fact of delayed child-bearing and the issues of infertility, anxiety and loss of identity that accompany it. Older mothers who have been pursuing careers prior to childbirth have high expectations for performance, and although they seek out support in various ways, they may have greater needs than have been acknowledged, by themselves or by society.

Follow-up and support for older mothers suffering infertility and/or previous pregnancy loss should be built into the process. Support for women undergoing C-section is particularly important. The finding related to the effects of C-sections indicates a need for intervention very early. Acknowledging the emotional as well as physical effects of a C-section on a group of well educated, sophisticated mothers, and targeting this group for support services around the time of birth could have important effects on the infant and the relationship.

Further exploration of these complex relationships is underway, both statistically, with a structural path model, and qualitatively, through case study analysis. It is anticipated that the need for additional support for today's families will continue to be seen as important.

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## Table 1. Demographics

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| MOMAGE | 70 | 26.00 | 43.00 | 32.8714 | 3.9367 |
| DADAGE | 69 | 25.00 | 50.00 | 34.4348 | 4.7904 |
| MOMED | 70 | 12.00 | 20.00 | 16.7000 | 1.3551 |
| DADED | 69 | 12.00 | 22.00 | 17.2754 | 1.7977 |
| Valid N (listwise) | 68 | | | | |

**SEX**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | male | 40 | 53.3 | 53.3 | 53.3 |
| | female | 35 | 46.7 | 46.7 | 100.0 |
| | Total | 75 | 100.0 | 100.0 | |

## Table 2. Descriptives

* = variables with values ranging from 0-1

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| interaff | 74 | 45.00 | 100.00 | 76.4865 | 11.5927 |
| attach | 74 | 1.00 | 7.00 | 4.7027 | 2.1180 |
| pre maternal vul* | 74 | .00 | 1.00 | .3243 | .4713 |
| c section* | 74 | .00 | 1.00 | .2568 | .4398 |
| maternal ill post* | 71 | .00 | 1.00 | .1972 | .4007 |
| maternal dep (rep)* | 75 | .00 | 1.00 | .2533 | .4378 |
| maternal dep (obs) | 72 | 2.00 | 5.00 | 4.2708 | .7779 |
| child dep (obs) | 72 | 3.00 | 5.00 | 4.1944 | .7246 |
| dyad dep (obs) | 72 | 2.00 | 5.00 | 3.7639 | .8004 |
| Bates F1 fussy-demand | 55 | 15.00 | 51.00 | 28.7545 | 8.6847 |
| Bates F2 undadapt | 55 | 5.00 | 23.00 | 13.4000 | 4.0396 |
| Bates F3 Persistant | 55 | 5.00 | 20.00 | 13.4182 | 3.2185 |
| Bates F4 Unsociable | 55 | 2.50 | 13.00 | 6.5727 | 2.2982 |
| MOMAGE | 70 | 26.00 | 43.00 | 32.8714 | 3.9367 |
| DADAGE | 69 | 25.00 | 50.00 | 34.4348 | 4.7904 |
| MOMED | 70 | 12.00 | 20.00 | 16.7000 | 1.3551 |
| DADED | 69 | 12.00 | 22.00 | 17.2754 | 1.7977 |
| Valid N (listwise) | 50 | | | | |



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## Table 3. Correlation Coefficients for Attachment, Interaffectivity and Vulnerabilities

**Correlations**

| | | interaff | attach | pre maternal vul | c section | maternal ill post | maternal dep (rep) | maternal dep (obs) | child dep (obs) | dyad dep (obs) |
|---|---|---|---|---|---|---|---|---|---|---|
| interaff | Pearson Correlation | 1.000 | .321** | -.087 | -.074 | .047 | -.342** | .657** | .588** | .753** |
| | Sig. (2-tailed) | . | .005 | .462 | .536 | .700 | .003 | .000 | .000 | .000 |
| | N | 74 | 74 | 73 | 73 | 70 | 74 | 72 | 72 | 72 |
| attach | Pearson Correlation | .321** | 1.000 | -.282* | .015 | -.272* | -.196 | .385** | .123 | .269* |
| | Sig. (2-tailed) | .005 | . | .016 | .903 | .022 | .094 | .001 | .303 | .022 |
| | N | 74 | 74 | 73 | 73 | 70 | 74 | 72 | 72 | 72 |
| pre maternal vul | Pearson Correlation | -.087 | -.282* | 1.000 | -.011 | .204 | .188 | .029 | -.099 | -.035 |
| | Sig. (2-tailed) | .462 | .016 | . | .928 | .088 | .110 | .812 | .410 | .774 |
| | N | 73 | 73 | 74 | 74 | 71 | 74 | 71 | 71 | 71 |
| c section | Pearson Correlation | -.074 | .015 | -.011 | 1.000 | .100 | .221 | -.029 | -.194 | -.080 |
| | Sig. (2-tailed) | .536 | .903 | .928 | . | .406 | .058 | .811 | .106 | .509 |
| | N | 73 | 73 | 74 | 74 | 71 | 74 | 71 | 71 | 71 |
| maternal ill post | Pearson Correlation | .047 | -.272* | .204 | .100 | 1.000 | .180 | -.165 | .057 | .090 |
| | Sig. (2-tailed) | .700 | .022 | .088 | .406 | . | .133 | .178 | .647 | .467 |
| | N | 70 | 70 | 71 | 71 | 71 | 71 | 68 | 68 | 68 |
| maternal dep (rep) | Pearson Correlation | -.342** | -.196 | .188 | .221 | .180 | 1.000 | -.285* | -.245* | -.252* |
| | Sig. (2-tailed) | .003 | .094 | .110 | .058 | .133 | . | .015 | .038 | .033 |
| | N | 74 | 74 | 74 | 74 | 71 | 75 | 72 | 72 | 72 |
| maternal dep (obs) | Pearson Correlation | .657** | .385** | .029 | -.029 | -.165 | -.285* | 1.000 | .530** | .647** |
| | Sig. (2-tailed) | .000 | .001 | .812 | .811 | .178 | .015 | . | .000 | .000 |
| | N | 72 | 72 | 71 | 71 | 68 | 72 | 72 | 72 | 72 |
| child dep (obs) | Pearson Correlation | .588** | .123 | -.099 | -.194 | .057 | -.245* | .530** | 1.000 | .748** |
| | Sig. (2-tailed) | .000 | .303 | .410 | .106 | .647 | .038 | .000 | . | .000 |
| | N | 72 | 72 | 71 | 71 | 68 | 72 | 72 | 72 | 72 |
| dyad dep (obs) | Pearson Correlation | .753** | .269* | -.035 | -.080 | .090 | -.252* | .647** | .748** | 1.000 |
| | Sig. (2-tailed) | .000 | .022 | .774 | .509 | .467 | .033 | .000 | .000 | . |
| | N | 72 | 72 | 71 | 71 | 68 | 72 | 72 | 72 | 72 |



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## Table 4. Hierarchical Regression with Attachment, Interaffectivity, and Prenatal Maternal Vulneraty

**Descriptive Statistics**

| | Mean | Std Deviation | N |
|---|---|---|---|
| attach | 4.6849 | 2.1271 | 73 |
| pre maternal vul | .3288 | .4730 | 73 |
| interaff | 76.2603 | 11.5073 | 73 |

**Correlations**

| | | attach | pre maternal vul | interaff |
|---|---|---|---|---|
| Pearson Correlation | attach | 1.000 | -.282 | .314 |
| | pre maternal vul | -.282 | 1.000 | -.087 |
| | interaff | .314 | -.087 | 1.000 |
| Sig. (1-tailed) | attach | . | .008 | .003 |
| | pre maternal vul | .008 | . | .231 |
| | interaff | .003 | .231 | . |
| N | attach | 73 | 73 | 73 |
| | pre maternal vul | 73 | 73 | 73 |
| | interaff | 73 | 73 | 73 |

**Variables Entered/Removed[b]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | pre maternal vul[a] | | Enter |
| 2 | interaff[a] | | Enter |

a. All requested variables entered.

b. Dependent Variable: attach

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .282[a] | .080 | .067 | 2.0550 |
| 2 | .405[b] | .164 | .140 | 1.9726 |

**Model Summary**

| Model | Change Statistics | | | | |
|---|---|---|---|---|---|
| | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .080 | 6.140 | 1 | 71 | .016 |
| 2 | .084 | 7.052 | 1 | 70 | .010 |

a. Predictors: (Constant), pre maternal vul

b. Predictors: (Constant), pre maternal vul, interaff

**ANOVA[c]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 25.930 | 1 | 25.930 | 6.140 | .016[a] |
| | Residual | 299.823 | 71 | 4.223 | | |
| | Total | 325.753 | 72 | | | |
| 2 | Regression | 53.372 | 2 | 26.686 | 6.858 | .002[b] |
| | Residual | 272.382 | 70 | 3.891 | | |
| | Total | 325.753 | 72 | | | |

a. Predictors: (Constant), pre maternal vul

b. Predictors: (Constant), pre maternal vul, interaff

c. Dependent Variable: attach

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 5.102 | .294 | | 17.380 | .000 |
| | pre maternal vul | -1.269 | .512 | -.282 | -2.478 | .016 |
| 2 | (Constant) | .957 | 1.586 | | .604 | .548 |
| | pre maternal vul | -1.154 | .493 | -.257 | -2.340 | .022 |
| | interaff | 5.386E-02 | .020 | .291 | 2.656 | .010 |

a. Dependent Variable: attach

**Excluded Variables[b]**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
|---|---|---|---|---|---|---|
| | | | | | | Tolerance |
| 1 | interaff | .291[a] | 2.656 | .010 | .303 | .992 |

a. Predictors in the Model: (Constant), pre maternal vul

b. Dependent Variable: attach



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## Table 5. Hierarchical Regression with Attachment, Interafectivity, and Postnatal Maternal Illness

**Descriptive Statistics**

| | Mean | Std Deviation | N |
|---|---|---|---|
| attach | 4.6714 | 2.1651 | 70 |
| maternal ill post | .2000 | .4029 | 70 |
| interaff | 76.6429 | 11.5270 | 70 |

**Correlations**

| | | attach | maternal ill post | interaff |
|---|---|---|---|---|
| Pearson Correlation | attach | 1.000 | -.272 | .318 |
| | maternal ill post | -.272 | 1.000 | .047 |
| | interaff | .318 | .047 | 1.000 |
| Sig. (1-tailed) | attach | . | .011 | .004 |
| | maternal ill post | .011 | . | .350 |
| | interaff | .004 | .350 | . |
| N | attach | 70 | 70 | 70 |
| | maternal ill post | 70 | 70 | 70 |
| | interaff | 70 | 70 | 70 |

**Variables Entered/Removed[b]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | maternal ill post[a] | | Enter |
| 2 | interaff[a] | | Enter |

a. All requested variables entered.

b. Dependent Variable: attach

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .272[a] | .074 | .061 | 2.0984 |
| 2 | .428[b] | .184 | .159 | 1.9853 |

**Model Summary**

| Model | Change Statistics | | | | |
|---|---|---|---|---|---|
| | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .074 | 5.454 | 1 | 68 | .022 |
| 2 | .109 | 8.972 | 1 | 67 | .004 |

a. Predictors: (Constant), maternal ill post

b. Predictors: (Constant), maternal ill post, interaff

**ANOVA[c]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 24.014 | 1 | 24.014 | 5.454 | .022[a] |
| | Residual | 299.429 | 68 | 4.403 | | |
| | Total | 323.443 | 69 | | | |
| 2 | Regression | 59.375 | 2 | 29.687 | 7.532 | .001[b] |
| | Residual | 264.068 | 67 | 3.941 | | |
| | Total | 323.443 | 69 | | | |

a. Predictors: (Constant), maternal ill post

b. Predictors: (Constant), maternal ill post, interaff

c. Dependent Variable: attach

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.984 | .280 | | 17.703 | .000 |
| | maternal ill post | -1.464 | .627 | -.272 | -2.335 | .022 |
| 2 | (Constant) | .216 | 1.607 | | .134 | .894 |
| | maternal ill post | -1.548 | .594 | -.288 | -2.606 | .011 |
| | interaff | 6.217E-02 | .021 | .331 | 2.995 | .004 |

a. Dependent Variable: attach

**Excluded Variables[b]**

| Model | | Beta In | t | Sig. | Partial Correlation | Collinearity Statistics |
|---|---|---|---|---|---|---|
| | | | | | | Tolerance |
| 1 | interaff | .331[a] | 2.995 | .004 | .344 | .998 |

a. Predictors in the Model: (Constant), maternal ill post

b. Dependent Variable: attach



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## Table 6. Correlation Coefficients for Infant Temperament Variables and Self- Reported Maternal Depression

**Correlations**

| | | maternal dep (rep) | Bates F1 fussy-demand | Bates F2 undadapt | Bates F3 Persistant | Bates F4 Unsociable |
|---|---|---|---|---|---|---|
| maternal dep (rep) | Pearson Correlation | 1.000 | .362** | .258 | .270* | .333* |
| | Sig. (2-tailed) | . | .007 | .058 | .046 | .013 |
| | N | 75 | 55 | 55 | 55 | 55 |
| Bates F1 fussy-demand | Pearson Correlation | .362** | 1.000 | .418** | .409** | .519** |
| | Sig. (2-tailed) | .007 | . | .001 | .002 | .000 |
| | N | 55 | 55 | 55 | 55 | 55 |
| Bates F2 undadapt | Pearson Correlation | .258 | .418** | 1.000 | .148 | .361** |
| | Sig. (2-tailed) | .058 | .001 | . | .281 | .007 |
| | N | 55 | 55 | 55 | 55 | 55 |
| Bates F3 Persistant | Pearson Correlation | .270* | .409** | .148 | 1.000 | .152 |
| | Sig. (2-tailed) | .046 | .002 | .281 | . | .267 |
| | N | 55 | 55 | 55 | 55 | 55 |
| Bates F4 Unsociable | Pearson Correlation | .333* | .519** | .361** | .152 | 1.000 |
| | Sig. (2-tailed) | .013 | .000 | .007 | .267 | . |
| | N | 55 | 55 | 55 | 55 | 55 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).



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